

In the Claims:

Claims 1-23, 25-28, and 30-37 are cancelled.

24. (Currently Amended) ~~The~~ A synthetic mammalian expression plasmid of claim 1,
~~wherein the codon-optimized-eukaryotic therapeutic gene sequence comprises SEQ ID NO: 7 for~~
plasmid mediated gene supplementation in a species comprising:

(a) a synthetic or eukaryotic promoter comprising SEQ ID NO: 15;
(b) a codon-optimized-eukaryotic therapeutic gene sequence comprising SEQ ID NO:
7 and having at least one codon modification specific to the species;

- (c) a polyadenylation signal;
- (d) a selectable marker gene sequence;
- (e) a ribosomal binding site;
- (f) a promoter for the selectable marker gene sequence; and
- (g) an origin of replication;

wherein the synthetic or eukaryotic promoter, the codon-optimized-eukaryotic
therapeutic gene sequence, and the polyadenylation signal comprise therapeutic elements of the
synthetic mammalian expression plasmid; the therapeutic elements are operatively linked and
located in a first operatively-linked arrangement; the selectable marker gene promoter, the
ribosomal binding site, the selectable marker gene sequence, and the origin of replication
comprise replication elements of the synthetic mammalian expression plasmid; the replication
elements are operatively linked and located in a second operatively-linked arrangement; the first-
operatively-linked arrangement and the second-operatively-linked arrangement comprise a
circular structure of the synthetic mammalian expression plasmid; and the synthetic mammalian
expression plasmid is utilized for plasmid mediated gene supplementation in the species.

29. (Currently Amended) A synthetic mammalian expression plasmid comprising
~~SEQID#19~~ SEQ ID NO: 19.